AMENDMENTS TO THE CLAIMS

1. (currently amended) A microfluidic device ~~that comprises~~ comprising a microchannel structure in which there are one, two or more flow paths ~~(101;201a,b;301a,a',b)~~ all of which comprises a porous bed I ~~(104,204,304)~~ that is common for all of the flow paths, which bed exposes an immobilized reactant R that is capable of interacting with a solute S that passes through the bed, ~~characterized in that~~wherein at least one ~~(101;201a;301a,a')~~ of the flow paths ~~(101;201a,b;301a,a',b)~~ comprises~~/comprise~~ a second porous bed II ~~(105,205,305)~~ that is placed upstream of porous bed I ~~(104,204,304)~~ and is dummy with respect to interaction with solute S but capable of interacting with a substance DS that is present in a liquid aliquot together with solute S and is capable of disturbing the result of the interaction between solute S and said immobilized reactant R.

2. (currently amended) The microfluidic device of claim 1, ~~characterized in that~~wherein porous bed I ~~(104,204,304)~~ and porous bed II ~~(105,205,305)~~ are physically separated from each other.

3. (currently amended) The microfluidic device of claim 1, ~~characterized in that~~wherein the upstream end of porous bed I ~~(104,204,304)~~ is abutted to the downstream end of porous bed II ~~(105,205,305)~~.

4. (currently amended) The microfluidifc device of claim 3, ~~characterized in that~~wherein there is a porous membrane ~~(106)~~ between said upstream end and said downstream end.

5. (currently amended) The microfluidic device ~~according to any~~ of claims 1~~-4~~, ~~characterized in that~~wherein at least one of porous bed I ~~(104,204,304)~~ and porous bed II ~~(105,205,305)~~ bed is a packed bed of particles and the remaining porous bed, if any, is a porous monolithic plug.

6. (currently amended) The microfluidic device ~~according to any~~ of claims 1~~-5~~, ~~characterized in that~~wherein at least one of porous bed I ~~(104,204,304)~~ and porous bed II ~~(105,205,305)~~ comprises a solid phase material that is a size exclusion material.

7. (currently amended) The microfluidic device ~~according to any of~~ claims 1-~~6~~, ~~characterized in that~~wherein ~~a)~~ the disturbing substance is smaller than solute S and that at least porous bed II ~~(105,205,305)~~ in at least one of said at least one flow path comprises a solid phase material that is a size exclusion material having an exclusion limit delaying the disturbing substance from passing through porous bed II~~)~~ in relation to solutes.

8. (currently amended) The microfluidic device ~~according to any~~ of claims 1-~~6~~, ~~characterized in that~~wherein at least one, two or more ~~(201b;301b)~~ of the remaining ones of said one, two or more flow paths ~~(101;201a,b;301a,a',b)~~ is/are devoid of porous bed II.

9. (currently amended) The microfluidic device ~~according to any~~ of claims 1-~~7~~, ~~characteerized in that~~wherein the porous bed II in said at least one, two or more flow paths comprises/comprise an immobilised reagent R_{DS} that is capable of interacting with the disturbing substance that is present together with a solutes.

10. (currently amended) The microfluidic device of claims 1-~~8~~, ~~characterised in that~~wherein said at least one flow path is two or more flow paths and that R_{DS} in at least one of said two or more flow paths differs from R_{DS} in at least one of the remaining ones of said two flow paths.

11. (currently amended) A microfluidic process carried out in a flow path ~~(101;201a;301a,a')~~ of a microchannel structure of a microfluidic device and comprising transporting a liquid aliquot containing a solute S through a porous bed I ~~(104,204,304)~~ that is placed in said flow path ~~(101;201a;301a,a')~~ and exhibits an immobilized reactant R that is capable of interacting with solute S during the transport, characterized in comprising the steps of

(i) providing said flow path ~~(101;201a;301a,a')~~ in a form that comprises a porous bed II ~~(105,205,305)~~ that is upstream of porous bed I ~~(104,204,304)~~ and dummy with respect to interaction with solute S but capable of interacting with a disturbing substance DS,

(ii) providing a liquid aliquot containing said solute S and said disturbing substance in said flow path ~~(101;201a;301a,a')~~ in a position that is upstream of porous bed II ~~(105,205,305)~~,

(iii) transporting the aliquot through porous bed II ~~(105,205,305)~~, and

(iv) transporting subsequently solute S through porous bed I ~~(104,204,304)~~ to allow for the interaction with reactant R.

12. (currently amended) A microfluidic device ~~in which there is~~comprising a microchannel structure that comprises one, two or more flow paths ~~(101;201a,b;301a,a',b)~~ each of which comprises a porous bed I ~~(104,204,304)~~ that is common for all of said flow paths and at least one of which ~~(101;201a;301a,a')~~ comprises a porous bed II ~~(105,205,305)~~ which is upstream of porous bed I ~~(104,204,304)~~, ~~characterized in that~~wherein one or both of porous bed I ~~(104,204,304)~~ and porous bed II ~~(105,205,305)~~ in said at least one flow path ~~(101;201a;301a,a')~~ comprises a solid phase material containing a generic ligand.~~3.~~

13. (currently amended) The microfluidic device of claim 12, ~~characterized in~~wherein the generic ligand in porous bed II ~~(105,205,305)~~ in one or more of said at least one flow path ~~(101;201a;301a,a')~~ are the same as in porous bed I.

14. (currently amended) The microfluidic device of claim 12, ~~characterized in~~wherein the generic ligand in porous bed II ~~(105,205,305)~~ in one or more of said at least one flow path ~~(101;201a;301a,a')~~ is an affinity counterpart (anti-ligand) to the ligand in porous bed I ~~(104,204,304)~~.

15. (currently amended) The microfluidic device of ~~any of~~ claims 12~~-13~~, ~~characterized in that~~wherein said ligand is ~~selected amongst~~ biotin ~~and~~ or anti-biotins.

16. (currently amended) The microfluidic device of ~~any of~~ claims 12~~-15~~, ~~characterized in that~~wherein there is only one flow path ~~(101)~~ comprising both porous bed I ~~(104,204,304)~~ and porous bed II ~~(105,205,305)~~.

17. (currently amended) The microfluidic device of claim 16, ~~characterized in that~~wherein the downstream end of porous bed II ~~(105,205,305)~~ is abutted to the upstream end of porous bed I ~~(104,204,304)~~, possibly with a porous membrane between the ends.